

APR/FY06

**WHEELER ARMY
AIRFIELD
HAWAII**

**Army Defense Environmental
Restoration Program
Installation Action Plan**

Final 8 July 2006

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Cleanup Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations, necessary remedial actions.

In an effort to coordinate planning information between the restoration manager, US Army Environmental Center (USAEC), Wheeler Army Airfield, Installation Management Agency-Pacific Area Regional Office (IMA-PARO), executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is therefore subject to change.

The following agencies contributed to the formulation and completion of this Installation Action Plan during a planning workshop held on 24 - 27 April 2006:

Company/Installation/Branch

US Army Environmental Center

Booz Allen Hamilton for US Army Environmental Center

Engineering & Environment, Inc. for US Army Environmental Center

Engineering & Environment, Inc. for US Army Garrison Hawaii

US Army Garrison Hawaii

ICI for US Army Environmental Center

DIMCO for US Army Engineer Research and Development Center

State of Hawaii Department of Health, HEER Office

Acronyms & Abbreviations

AAFES	Army/Air Force Exchange Services
ACSIM	Assistant Chief of Staff for Installation Management
AEDB-R	Army Environmental Database - Restoration
AOC	Area of Concern
AST	Aboveground Storage Tank
bgs	below ground surface
BRAC	Base Realignment & Closure Act
CAA	Clean Air Act
CEA	Classification Exception Area
CECOM	Communications-Electronics Command
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
COE	Corps of Engineers
DA	Department of the Army
DCE	1,2-Dichloroethene
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethene
DDT	Dichlorodiphenyltrichloroethane
DER	Declaration of Environmental Restriction
DERA	Defense Environmental Restoration Account (currently called ER,A)
DERP	Defense Environmental Restoration Program
DPW	Directorate of Public Works
EEB	Enzyme enhances bioremediation
EPA	Environmental Protection Agency
EPR	Environmental Program Requirement
ER,A	Environmental Restoration, Army (formerly called DERA)
ERP	Environmental Restoration Program
FID	Flame Ionization Detector
FS	Feasibility Study
FY	Fiscal Year
g/L	gallons per liter
GAC	Granular Activated Carbon
GC/MS	gas chromatography/mass spectrometry
gph	gallon per hour
GWTS	ground water treatment system
HRC	Hydrogen Release Compound
IA	Installation Assessment
IAP	Installation Action Plan
IAW	In accordance with
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LTM	Long Term Monitoring
MCL	Maximum Contaminant Level
mg/kg	milligrams per kilogram

Acronyms & Abbreviations

MMRP	Military Munitions Response Program
msl	mean sea level
MTBE	Methyl-Tert-Butyl Ether
NE	Not Evaluated
NFA	No Further Action
NPL	National Priority List
ORC	Oxygen Release Compound
OU	Operable Unit
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethylene
PID	Photo Ionization Detector
POL	Petroleum, Oil & Lubricants
ppm	parts per million
PVC	polyvinyl chloride
R&D	Research & Development
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REM	Removal Action
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RPM	Remedial Program Manager
RRSE	Relative Risk Site Evaluation
S&A	Supervision & Administration
SI	Site Inspection
STP	Sanitary Treatment Plant
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TBA	Tert-Butyl Alcohol
TCE	Trichloroethylene
TCL	Target Compound List
TPH	Total Petroleum Hydrocarbons
TPHC	Total Petroleum Hydrocarbons Concentrations
TSCA	Toxic Substance Control Act
ug/L	micrograms per liter
USAEC	United States Army Environmental Center
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency

Acronyms & Abbreviations

UST	Underground Storage Tank
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compounds

Installation Locale: Wheeler Army Airfield (WAAF) is located in the central part of the island of Oahu on the Schofield Plateau and covers approximately 1,430 acres of land. The facility lies approximately 22 miles northwest of the city of Honolulu. The area around the airfield is mostly agricultural land. The nearest municipality is Wahiawa, located approximately 0.5 mile to the northeast supporting residential, commercial and light industrial uses. The town of Mililani lies approximately 2 miles southeast of WAAF and supports mostly residential and commercial uses. Schofield Barracks borders WAAF to the north and Schofield Barracks East Range borders WAAF to the North East.

Installation Mission: Wheeler Army Airfield (WAAF) mission is to provide aviation support to the Hawaii Army Air National Guard and a number of Department of Defense activities including the Defense Communications Agency, the Air Force's 6010th Aerospace Defense Group, the Hawaii Army National Guard's Aviation Support Facility, and the 25th Infantry Division (Light) Aviation Brigade.

Lead Organization:

Installation Management Agency, Pacific Region

Leading Executing Agency: US Army Corps of Engineers, Pacific Division

Regulatory Participation:

State: Hawaii Department of Health

National Priorities List (NPL) Status: Non-NPL, potential off post migration of contamination

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status: No RAB/TRC/TAPP has been established at this time.

Installation Program Summaries

IRP

Primary Contaminants of Concern: POL

Affected Media of Concern: Groundwater, Soil, Surface Water

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): All Sites RC

Funding to date (up to FY05): \$1,632K

Current year funding (FY06): Response Complete

Cost-to-Complete (FY07+): Response Complete

MMRP

Primary Contaminants of Concern: MEC/MC, Lead, Arsenic

Affected Media of Concern: Groundwater, Soil

Estimated Date for RIP/RC: 2032

Funding to date (up to FY05): \$ 0

Current year funding (FY06): \$ 153,000

Cost-to-Complete (2007+): \$ 4,444,000

Installation Historic Activity

The central plateau and WAAF area have been used for Hawaiian settlement, cattle ranching, agricultural production (pineapples), and military use in the past. The area was densely forested through the early 1800s. Several Hawaiian villages were scattered across the plateau. There was some dry land cultivation and many of the gulches were cultivated with taro.

King Kamehameha III designated the entire WAAF area as Crown Lands in 1848. This land was leased for cattle ranching in the second half of the 18th century. Cattle grazing occurred in the southwestern portion of WAAF. Pineapple cultivation began in the area in 1900 and fields were located in the northeastern portion of WAAF. Formal arrival of the U.S. Military occurred in 1899 (Executive Order 30, Statute 750), although troops did not occupy the area until 1908 (Tomanaii-Tuggle and Bouthiller, 1993).

The area occupied by Wheeler Field was originally acquired by the Secretary of War in 1899 for the Schofield Barracks Military Reservation. Construction at WAAF began in February 1922 as an extension of Schofield Barracks. Wheeler Field was a small operation, housing two squadrons of the Hawaiian Department of Air Corps. Wheeler Field was the site of several historic aviation events such as the first nonstop Mainland to Hawaii flight (1927) and the first Hawaii to Mainland flight. Construction at the base resumed in the early 1930s. Officers' quarters, barracks, hangars, headquarters, runways, a fire station and other technical buildings were constructed at this time (Tomanaii-Tuggle and Bouthiller, 1993; Hirota 1983).

In 1939 Wheeler Field became a permanent military post. Units stationed at Wheeler included the 18th Pursuit Group and the 4th and 5th Reconnaissance Squadrons. Wheeler Field was bombed during the attack on Pearl Harbor. Anecdotal information suggests that eighty-three aircraft were destroyed and subsequently buried at the end of the runway or bulldozed into a nearby gulch. Two additional runways were constructed after the attack. They formed a triangle so that all three runways could be used simultaneously. Ammunition storage structures, bunkers, a new hangar, family housing and support structures were also constructed during World War II. In 1944, the 7th Air Service Command was established at the base to provide service and supply for B-29 bombers (Tomanaii-Tuggle and Bouthiller, 1993; Hirota 1983; 15th Air Base Wing, 1990).

In April 1948, the installation was renamed Wheeler Air Force Base (AFB). In 1949, it was deactivated and placed in caretaker status. Wheeler AFB was reactivated in 1952 during the Korean War, which resulted in the organization of the 1508th Support Squadron. In the 1960s, the Air Force, Army, Navy, and Hawaii National Guard shared installation facilities. Documents indicate that aircraft maintenance was limited to flight line maintenance and minor frame and engine work (Dames and Moore, 1986). There were no heavy maintenance shops such as engine rebuilding or metal plating at the air base. Therefore, shop generated wastes were not extensive.

Cleanup Program Summary

The US Army assumed control of the administration, maintenance, and operations at WAFB in 1977. It became the center for all Army aviation activities in the Pacific (primarily helicopters).

The installation came under formal control of the US Army in 1991 and was named Wheeler Army Airfield. Present organizations at the facility include the Defense Communications Agency, Air Forces' 6010th Aerospace Defense Group, Hawaii National Guard Aviation Support, and the 25th Infantry Division Aviation Brigade (Tomanaii-Tuggle and Bouthiller, 1993; Hirota, 1983).

The U.S. Army Garrison-Hawaii has completed a RI for both the Archer Range Site (WAAF-21) and WAAF-20 (Wheeler Network Segment Control Center) and provided the RI to the Department of Health, State of Hawaii ("DOH"), in January 2004. The recommendations of the RI/RA report for the Network Control Building site (WAAF-20) were fully adopted and the site is closed. After receiving additional comments from the DOH regarding the Archery Range Site (WAAF-21), the contractor (HEIS, Inc.) revised the RI report and resubmitted it to the DOH for further review. The U.S. Army Garrison-Hawaii is, accordingly, awaiting final comments from the DOH before executing on the clean up and exit strategy for Wheeler Army Airfield.

The US Army Garrison-Hawaii is in the process of applying for funding under the Compliance Cleanup program to continue evaluation of the extent of the Archery Range Site.

Program Progress:

MMRP:

Wheeler Army Airfield is comprised of a total of 665 acres, of which 568.02 acres are classified as active or inactive ranges under Phase II of the MMRP Range Inventory Report. The range inventory conducted under Phase III identified three closed ranges, and one transferred site totaling 2.22 acres. Two of the closed ranges were identified as portions of a firing range. The third closed range was identified as a small arms range. The transferred site was also classified as a small arms range. No ranges or UXO (unexploded ordnance), DMM (discarded military munitions), and munitions constituents (MC) were found to be associated with the two National Guard enclaves located on this installation.

No work beyond the phase II and III MMRP surveys has been completed as part of the MMRP program to date.

WHEELER ARMY AIRFIELD

Military Munitions Response Program

Total AEDB-R MMRP Sites/AEDB-R sites with Response Complete: 4/0

AEDB-R Site Types

4 Small Arms Ranges

Most Widespread Contaminants of Concern: UXO, Metals, Pyrotechnics

Media of Concern: Soil

Completed REM/IRA/RA: None

Total MMRP Funding

Prior years (up to FY05):	\$	0
Current Year (FY06):	\$	153,000
Future Requirements (FY07+):	\$	4,444,000
Total:	\$	4,587,000

Duration of MMRP

Year of MMRP Inception: 2002

Year of MMRP RIP/RC: 2017

Year of MMRP Completion Including LTM: 2017

MMRP Contamination Assessment

MMRP Contamination Assessment Overview

Four MMRP sites have been identified at Wheeler Army Airfield. A SI contract was awarded October 2005.

MMRP Cleanup Exit Strategy

Complete the SI and conduct remediation as required.

2002

- Final CTT Inventory Report, TechLaw, October

WHEELER ARMY AIRFIELD

Military Munitions Response Program Site Descriptions

SMALL ARMS RANGE 1

WAAF-001-R-01

SITE DESCRIPTION

This is a closed small arms range, located adjacent to an auxiliary runway, just to the west-southwest of Ramp 2 (also known as Access Road) near the western border of Wheeler. It was identified on an undated map and an aerial photograph from 1955, and none of the interviewees had information regarding its use. It is assumed that the range began in 1950 and closed sometime during the 1970's because it no longer appeared on maps of the installation. Small arms munitions were assumed to have been used at this range. This range and Small Arms Range 1 (TD) are part of the same range, yet are split due to the fact that one portion is located on the installation and the other is off-post. The size of the range is estimated at 2.0 acres. There have been no known response actions at this range. The site is currently undeveloped.

STATUS

REGULATORY DRIVER: CERCLA

RAC: Negligible Risk

CONTAMINANTS OF CONCERN:
Lead

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA.....	200204	200305
SI.....	200601	200712
RI/FS	201410	201509
RD	201510	201609
RA(C)	201610	201709

RC: 201709

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary.

Site Progress

The RI for this site is planned for April 2006 through September 2007.

CLEANUP STRATEGY

Additional investigation is planned. RA may include soil removal.

WAAF-002-R-01

SMALL ARMS RANGE 1 (TD)

SITE DESCRIPTION

This is a transferred small arms range, located adjacent to an auxiliary runway, just to the west southwest of Ramp 2 (also known as Access Road) near the western border of Wheeler. It was identified on an undated map and an aerial photograph from 1955, and none of the interviewees had information regarding its use. It is assumed that the range was no longer used at sometime during the 1970s because it no longer appeared on maps of the installation. This is the transferred portion of the above range. Small arms munitions were assumed to have been used at this range. This range and Small Arms Range 1 are part of the same range, yet are split due to the fact that one portion is located on the installation and the other is off-post. The size of the range is estimated at 0.09 acres. There have been no known UXO responses at this range. This site is undeveloped.

STATUS

REGULATORY DRIVER: CERCLA

RAC: Negligible Risk

CONTAMINANTS OF CONCERN:
Lead

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	200204	200305
SI	200601	200712
RI/FS	201410	201509
RD	201510	201609
RA(C)	201610	201709

RC:..... 201709

As a result of the Findings of Determination for FUDS (FDE) Task 1, this site may have been incorrectly mapped during the Phase 3 Inventory. If it is found that this site is within the installation boundary then it should be made Response Complete in AEDB-R because it is an extension of Small Arms Range 1.

CLEANUP STRATEGY

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary. Additional investigation is planned. RA may include soil removal.

WAAF-03-R-01 FIRING RANGE 2A

SITE DESCRIPTION

This former small arms range located at the southern end of an auxiliary runway near the western border of Wheeler. It has been identified on maps dating back to the 1950s. Interviewees mentioned that this range was closed in the mid-1990s. This range was used for small arms training and weapons qualifications, and as such, small arms munitions were the assumed munitions used. The range was assumed to have begun use in the 1950s. A portion of this range was identified in the Phase 2 Inventory. Ranges 2a and 2b are part of the same firing range; they are listed separately due to the fact that the range is divided as a result of the area designated as operational. The size of this range is estimated at 0.05 acres. There have been no known UXO responses at this range. Presently, the site is undeveloped.

STATUS

REGULATORY DRIVER: CERCLA

RAC: Negligible Risk

CONTAMINANTS OF CONCERN:
Lead

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA.....	200204	200305
SI	200601	200712
RI/FS.....	201410	201509
RD	201510	201609
RA(C).....	201610	201709

RC:201709

CLEANUP STRATEGY

The SI for this site is planned for April 2006 through September 2007.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary. Additional investigation is planned. RA may include soil removal.

WAAF-04-R-01 FIRING RANGE 2B

SITE DESCRIPTION

This former small arms range located at the southern end of an auxiliary runway near the western border of Wheeler. It has been identified on maps dating back to the 1950s. Interviewees mentioned that this range was closed in the mid-1990s. This range was used for small arms training and weapons qualifications, and as such, small arms munitions were the assumed munitions used. A portion of this range was identified in the Phase 2 Inventory. Ranges 2A and 2B are part of the same firing range; they are listed separately due to the fact that the range is divided as a result of the area designated as operational. The size of this range is estimated at 0.08 acres. There have been no known UXO responses at this range. Presently, the site is undeveloped.

This site is also a portion of an ER,A site identified in AEDB-R as WAAF-21. The portion of the site that will be addressed under the MMRP is the berm portion.

STATUS

REGULATORY DRIVER: CERCLA

RAC: Negligible Risk

CONTAMINANTS OF CONCERN:
Lead

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA.....	200204	200305
SI	200601	200712
RI.....	201410	201509
RD	201510	201609
RA(C)	201610	201709

RC: 201709

CLEANUP STRATEGY

The SI for this site is planned for April 2006 through September 2007.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary. Additional investigation is planned. RA may include soil removal.

Initiation of MMRP: 200204

Past Phase Completion Milestones

PA - 200305

Projected ROD/DD Approval Dates: Unknown

Projected Construction Completion: 2017

Schedule for Five Year Reviews: Unknown

Estimated Completion Date of MMRP including LTM: 201709

Prior Years Funds**Total Funding up to FY04: \$ 0K****FY05**

Site Information	Expenditures	FY Total
		\$0

Total Prior Year Funds: \$0K***Current Year (FY06) Requirements***

Site Information	Requirements	FY Total
SI		\$ 153K

Total Future Requirements: \$4,444K***Total MMR Program Cost (from inception to completion of the MMRP): \$4,587K***

There is currently no RAB at this installation. However, interest will be solicited once the RI begins.